REMARKS/ARGUMENTS

Claims 1,3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 17, 18, 20, 22, 24, 25, 26, 27, 28, 29, 30, and 31 have been amended, and Claims 32, 33 and 34 have been added.

The Examiner has acknowledged that claims 15, 16, and 19 – 21 are directed to allowable subject matter.

The rejection of Claims 1 – 14, 17, 18, and 22 – 31 under 35 U.S.C. § 102(b) as being anticipated by Kleijn (5,517,595) is respectfully traversed. Kleijn does not teach or suggest any embodiments of the invention presently claimed, as will be discussed below.

Regarding Claims 1(a), 4 11, and 12, the instant AbS is between a sequence of input waveforms to sequence of quantized and interpolated waveforms, rather than between only one input to one output waveform (per frame) as in Kleijn. The AbS of the claims takes into considerations the effect of interpolating the waveforms, unlike Kleijn. The AbS of the claims is different from Kleijn's AbS.

Regarding Claims 1(b), 5 and 14, the waveform is shifted in order to eliminate the linear phase shift between the quantizer input to its output, which helps to eliminate the linear shift and to focus on the dispersion phase. In Kleijn, the shift is done in a different context for a completely different purpose, which is smoothing the characteristic waveform, and no phase quantization method or system is described in Kleijn, and no focus on the dispersion phase is suggested there.

The novelty of Claim 6 novelty is in the varying boundaries of the summations, in computing the distortion measure or an equivalent similarity measure, such as normalized correlation, used for the pitch search.

Regarding Claims 6 and 17, and 18, the varying boundaries we refer to are those used for the summations used in the computation of the similarity (or distortion) measure, while the boundaries mentioned in Kleijn are the extracted waveform's boundaries, a totally different subject and context.

Regarding Claims 10 and 22 – 28,, the methods here are not the same as in Kleijn. Kleijn suggests to quantize the SEW on a gain-shape product VQ, i.e.

gain-shape-VQ applied to one SEW vector. Here we apply VQ to the gain sequence. These are two different subjects and context.

Also regarding Claims 22, and regarding Claim 26 as well, Kleijn doesn't perform Vector-Quantization of the gain (instead he uses down sampling and scalar quantizer), and we suggested VQ of the gain using AbS and switch prediction. Kleijn doesn't use any temporal weighting nor does he use analysis-by-synthesis or switch prediction for the gain quantization.

Regarding Claim 12, novelty is in using accumulated distortion for the quantization, while others used distortion between one input to one output vector.

Regarding Claim 13, the indexes 0-to-K in Kleijn refer to the level of voicing, periodicity, or the peakiness of the SEW waveform, and not to a full quantization of the phase which may produce changing phase even when the level of voicing is unchanged. Kleijn mentions the possibility of phase spectra quantization and doesn't provide any method or system to do it. The method of this invention focuses specifically on the dispersion phase attribute of the phase, and provides a method and a system to extract and to quantize the dispersion phase.

In view of the foregoing, Applicants believe the application is in condition for allowance and respectfully solicit a Notice of Allowance.

The Commissioner is hereby authorized to charge payment of any fees required associated with this communication or credit any overpayment to Deposit Account No. 50-0337. If an extension of time is required, please consider this a petition therefor and charge any additional fees which may be required to Deposit Account No. 50-0337. A duplicate copy of this paper is enclosed.

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Respectfully submitted,

By_____

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